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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,087	06/28/2001	Eric J. Horvitz	MS171133.1	5322

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EXAMINER
CHUNG, JI YONG DAVID

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/02/2006*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-80* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/21/2006*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Remarks

1.   Applicant's arguments and amendments filed on March 2, 2006 have been carefully

considered. The applicant's arguments have been considered, but they are deemed moot in light

of new grounds of rejection.

While the Office believes that the amendments have substantively advanced the

prosecution, the amendment raises a number of potential issues. In the instant Office action, the

Office expresses these issues in the form of 35 U. S. C. 103 rejections, specifically in reference

to amended claim 1.

Note that the Office has interpreted the amended portion of the claim in the worst

"reasonable" way possible, as it is obligated to do so for the purpose of the examination.

Rejections based on such reading of the claims maybe overcome by further amendment that

incorporates proper clarifying language.

The Office withdraws the 35 U. S. C. 112 Second paragraph rejections, pertaining to

claims 7 and 35.

Cancellation of claim 17 is acknowledged.

Telephone Interview

2.   The Office will attempt to contact the applicant's representative upon further review of

the case. If the Office fails to contact the applicant within a reasonable period, to allow the

applicant sufficient time to prepare a response to the instant Office action, the applicant is

encouraged to contact the Office, through either the email address or phone number provided

below.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   **Claims 1-3, 12, 15, 31, 34-35 and 38** are rejected under 35 U.S.C. 102(e) as being

anticipated by Liversidge et al. (Pub. No. 2002/0076025, Liver hereinafter) in view of Horvitz et

al (Pat. No. 6,01,403, Horvitz hereinafter)

With respect to **claim 1**, Liver shows a system comprising:

a user state identifier that determines a user's state from at least one context information

source ["A user state identifier" is the VTE client. See Fig. 1. It determines the user's state from

what the user does], *wherein the user state identifier generates an indication of whether a user*

state change has occurred from the at least one context information source [VTE client contacts

the server and indicates the user action ("generates an indication of whether a user state change

has occurred")]; and

       a data log that stores information associated with the at least one context information

source at about the time of the user state change to accumulate statistics relating to at least one

of an availability and an unavailability of the user [See Fig. 5 for logs. See paragraph 0073,

which mentions that the server keeps a log. See paragraph 0154, which mentions a session log

table, which has a "one context information source at about the time of the user state change"

(user terminates or begins a session) "to accumulate statistics" (session logs accumulate session

data) "about the availability of the user" (about session) of the user].

      With respect to the amended portion of the claims, Liver also shows *an e-mail service*

to generate dynamically [Liver has an email service, part of which lets other VTE clients to

know if a user maybe reached through an email. This "heads up" service is dynamic, because it

depends on user availability] *automated responses to one or more messages* [The response of the

system is automatic. It is in response to the messages from the presence server] *based upon the*

user's availability [The presence server bases its information on user availability]. See the

paragraph 0067 for e-mail as one of the communication means.

      Liver does not show a *prediction model*.

However, Horvitz shows a prediction model [See lines 39-55, column 18 for the

Inference engine ("a forecaster"), which makes forecasts based on event database. See lines 28-

37, column 10, which indicates that event database model includes availability and unavailability

of user].

It would have been obvious to one of ordinary skill in the art at the time of the invention

to use the information gathering module and the inference engine in Horvitz with the presence

server in Liver to determine the presence information, because Liver uses a presence server and

Horvitz shows an improved presence detection (and forecasting) system based on the inference

engine.

With reference to **claim 2**, Liver does not show, but Horvitz shows *the system further*

comprising a forecaster constructed from the accumulated statistics to enable a determination of

the user's at least one of availability and unavailability [See lines 39-55, column 18 for the

Inference engine ("a forecaster"), which makes forecasts based on event database. See lines 28-

37, column 10, which indicates that event database model includes availability and unavailability

of user].

With respect to **claim 3**, Horvitz shows *the forecaster employs a probability distribution*

over a time until the user returns to drive an application wherein the user can review

information that has arrived [See from line 56, column 18 to line 54, column 22. Horvitz's

inference engine employs a probability distribution over time. Note that phrase "until the user

returns to the drive an application wherein the user can review information that has arrived" is

just the time of the user availability to read a message].

With regard to **claim 12**, Horvitz shows *determining probabilities associated with the*

users return in an "x" amount of time, given that the user has been away for a "y" amount of

time, based upon observed evidence of the user's context. See lines 28-37, column 10 for

different attention states, two of which are 'available' and 'unavailable.' In the same context,

given the equations in lines 43-48, column 16, the above-mentioned "associated probability" is

the probability that a user "will return in x amount of time" (that is, the probability that the user

will be available at time t_p, given that a user was last available at t_0.

With regard to **claim 15**, Horvitz shows *the forecaster that generates prediction*

information regarding at least one of the user's likely return and the user's current availability.

See the preceding discussion of claim 12. The features in Horvitz that meet the limitation of

claim 12 also meet the limitations of claim 15.

With respect to **claim 31**, Horvitz shows *the user state identifier employs at least one of a*

rules-based determination, a statistical determination, and a decision-theoretic determination.

See the discussion of claim 2. Claim 31 reads on the features on which claim 2 reads.

With reference to **claim 34**, Horvitz shows that *the forecaster is constructed from at least*

one of probabilistic classifiers, support vector machines, Bayesian networks, Bayesian

dependency networks, and decision trees. See Figs. 24, 25, and 27 for Bayesian networks.

With reference to **claim 35**, Horvitz shows system of claim 34, *the forecaster further comprising forecasts cast as probability distributions, relating to at least one of the amount of time until a user returns to a situation i, or to a pattern of communication action j, based on multiple pieces of evidence, i and j being integers.* See lines 10-47 in column 16.

With regard to **claim 38**, Liver shows the following limitation:

the forecaster employed to function in at least one of an automatic, collaborative, synchronous and asynchronous manner in conjunction with at least one of a contactor [the asynchronous operation is inherent in the use of the VTE (modified) client].

Neither Liver nor Horvitz show the contactor and a contactee *to tentatively reschedule a communication or collaboration of one or more forms, based on inferences relating to the users availability.*

Note, however, rescheduling a meeting ("communication of collaboration of one or more forms"), which is what meeting organizers to when they find attendees' schedules booked.

It would have been obvious to one of ordinary skill in the art at the time of the invention, for those that use Liver and Horvitz's system, upon finding themselves busy, to reschedule meetings, because rescheduling a meeting or collaboration event allows them to meet.

5.   **Claims 4, 6, 7, 20, 21, 36 and 47** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Liver and Horvitz and further in view of Horvitz et al., "Attention-Sensitive
Alerting" (Horvitz_2 hereinafter).

With respect to **claim 4**, Horvitz_2 shows *a system to reason about an expected cost of
delayed review of information so as to guide decisions about alerting the user before the user
can observe the information.* See Section 4.1 Cost of Delayed Action, in Horvitz_2.

It would have been obvious to one of ordinary skill in the art at the time of the invention
to combine a module for determining the best time to deliver a message, together, with a
message delivery system of Liver, because, as it is suggested by Horvitz_2, there is a cost
associated with diverting one's attention away from one's task, and therefore, a given application
(i.e, Liver's system) will be more useful if it can send the message to the user at the moment at
which t is most likely to minimize the cost of delay.

With regard to **claim 6**, Liver shows a display *that is accessed by other users, systems,
and applications regarding the at least one of the user's availability and unavailability.*

See Fig. 1. It shows a VTC client screen, that indicates which communication means is
unavailable and available. A user is unavailable when none of the communication means is
available.

With regard to **claim 7**, Horvitz_2 show conditioning *probabilities on different types of
appointments that are observed on a calendar* [See page 8, lines 1-4, which indicates that
Microsoft Outlook calendar is integrated into a system for computing the criticality (the cost) of
each messages. Note that appointments ('time slot that is occupied') are inherent in calendar]

and *shares information based on such considerations as to at least one of the nature and*

privileges of the person inspecting the calendar, wherein the information is based on an inferred

urgency of a communication. [The privilege level is inherent for each person accessing

Microsoft Outlook on Windows (i.e., a user with an access privilege must have a password).

Note that urgency is the 'criticality.']

With regard to **claim 20**, Horvitz_2 *shows a priorities service wherein automated*

responses are generated as a result of an urgency threshold and the prediction information. See

Section 5 for "urgency" ('criticality') and see section 6 for "priorities service" ('priorities

prototypes').

With regard to **claim 21**, Horvitz_2 shows that *wherein the priorities service further*

comprises a user configuration interface that enables at least one of sending an automated

response, configuring an urgency threshold, and configuring the amount of time the user is

unavailable. Horvitz_2 shows Microsoft Outlook as part of its system, and Microsoft Outlook

comprise a user configuration interface to enable "sending an automated response."

With reference to **claim 36**, Liver shows *the forecaster including at least one* of how long

the user has already been gone, *has not had access to a channel.* In Fig. 1, the user interface

indicates which communication channel is accessed.

Horvitz_2 shows two of *other evidence including at least one of a time of day,*

information on a calendar, location of a current or last appointment, location of a next

appointment, a type of day, the type of day including at least one of a weekend, holiday,

weekday, and current status of the user. Horvitz_2 forecaster uses Microsoft Outlook calendar.

See section 6 for "time of day" as a factor used in forecasting.

With respect to **claim 47**, the following limitations read on a features of Liver: *a*

communications system, comprising: means for determining one or more user states; means for

detecting a change of the one or more user states; means for storing user context information at

about the time of detecting the change of the one or more user states [See above discussion of

claim 1]; and

The following limitation reads on the Hovitz's features that read on claim 2.

means for building a prediction model from the stored context information. See above

for the discussion of claim 2 for "forecaster constructed from accumulated statistics."

Horvitz_2 shows

means for generating automated message response based upon forecasting information

derived from the prediction model. See the above discussion of claim 21. The feature of

Horvitz_2 that meets the limitation of claim 21 also meets the limitations of claim 47.

6.   **Claims 23 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liver

in view of Horvitz and further in view of Horvitz, "Principles of Mixed-Initiative User

Interfaces" (Horvitz_3 hereinafter).

With respect to **claim 23**, Liver shows a *voice mail service wherein automated acoustical responses are generated* [See VoiceMail in paragraph 0138 and voice communications].

Neither Liver nor Horvitz shows, but Horvitz_3 shows

with associated prediction information that attempt to reschedule a call based upon considerations of the user's availability. See Section "A TESTBED FOR MIXED-INITIATIVE UI", which speaks of scheduling appointments

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply Horvitz_3 to Liver, because the automating the rescheduling of voice messages (for a meeting) would provide greater chance that the calling party will reach the called party.

With respect to **claim 25**, Horvitz_3 shows *a scheduling system, wherein one or more user calendars are automatically updated to reflect the associated user's availability.* See "Multiple Interaction Modalities," section in Horvitz_3. The second column notes that "[system] has readied the calendar view to shows the user or has created a tentative appointment before displaying the results."

6.   **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liver and Horvitz and further in view of Metcalfe ("After 35 years of technology Crusades, Bob Metcalfe rides off into the Sunset") and Jensen et al (Pat. No. 5,930,828, Jensen hereinafter)

With respect to **claim 27**, Jensen shows *an automated maintenance service wherein a maintenance operation is performed at times determined* by the prediction information scheduled

from at least one of a resident computer system and a remote computer system and wherein the maintenance service provides at least one of drive organization, drive de-fragmentation and virus checking. As indicated in the Abstract, Jensen reference refers to disk de-fragmentation. It is performed at scheduled times. See lines 51-58, column 6 for schedules.

Horvitz shows the forecaster ("prediction information") as discussed above.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the forecaster to schedule a disk de-fragmentation (analogous to one in Jansen) when a user is most likely not using a particular computer, because as it is indicated in Metcalfe on page 2 related to "DISK", if the disk defragmenter is scheduled to run while the user is using the computer, one would waste much time waiting for disks to be backed up and de-fragmented. See page 2 of Metcalfe, on Disk.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this
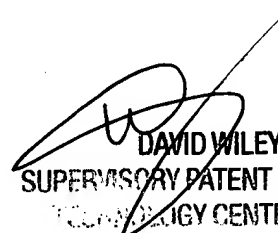
final action.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Ji-Yong D. Chung whose telephone number is (571) 272-7988.

The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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applications is available through Private PAIR only. For more information about the PAIR

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